Colorado Department of Health

Review and Comment

Chemical-Specific Benchmark Tables
March 25, 1992

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General Comments:

1) The title blocks for the tables should be listed as ug/l **unless otherwise noted.** It would also be helpful to list the Chemical Abstract Service Registry numbers (CAS #) for the various compounds listed.

2) Asbestos and Uranium should be added to the table. For those parameters that are required to be **maintained at the lowest practical level**, such as Uranium, a reference should be made in the Tables.

3) The method abbreviations used in footnote 6 are cumbersome and require continual reference to the footnote which is located only on the last page of each table. It would be more clear to use the original acronyms for the method (ie. GC, GC/MS, HPLC, etc.).

4) DOE needs to ensure that the analytical method listed on these tables is that method which allows RFP to establish the level of detection necessary for the most restrictive standard.

5) The metal TVSs should include the calculation for the range of hardness observed on and off the plant. This will provide a range of benchmark values. This range can be used to demonstrate a need to adjust the CT furnace methods so appropriate detection limits can be achieved.

6) The CT methods for certain metals lack the level of detection required for evaluation against benchmarks. Substitute the EPA methods for CT or CLP methods for the following parameters:

Parameter	EPA Method
Cadmium	213.2
Chromium	218.2
Copper	220.2
Cyanide	335.2
Lead	239.2
Silver	272.2

7) Please list the actual referenced EPA method for each organic compound rather than CLP-TAL. CLP-TAL is not a legitimate data quality objective, particularly for surface waters and tributary groundwaters. The EPA method should be listed in a similar manner to what is presented in preceeding General Comment 6.

8) Please refer to the attached version of text (Attachment A) that the Division would consider appropriate for explanation of the Benchmark Tables in the RFI/RI Workplans. The basis for this version was taken from the Draft Phase I RFI/RI Workplan for OU 8 as it is the only workplan, to date, to incorporate reference to the Benchmark Tables.

Specific Comments:

1) Page A-1.4: CDH CWQCC Groundwater Quality Standard Table 1 (Human Health) does not contain standards for Methoxychlor and Toxaphene. Please remove the indicated standards from this column of the table.

2) Page A-1.5: CDH CWQCC Groundwater Quality Standard Table A does not contain a standard for 2,4,5 Trichlorophenol. Please remove the indicated standard from this column of the table.

3) Page A-1.6: CDH CWQCC Groundwater Quality Standard Table 1 (Human Health) does not caontain a standard for Benzidine. Please remove the indicated standard from this column of the table.

4) Page A-1.7: No standard for Ethylene Glycol has ever been adopted by the WQCC. Please remove the standard of 7000 ug/l listed under CDH CWQCC Groundwater Quality Standard Table A.

5) No standard for hexachlorocyclopentadiene has ever been promulgated by the WQCC. Please remove the standard of 49 ug/l listed under CDH CWQCC Groundwater Quality Standard Table A.

6) Page A-1.9: CDH CWQCC Groundwater Quality Standard Table A does not contain standards for Ethylene Dibromide or the Halomethanes. Please remove the indicated standards from this column of the table.

7) Page A-3.1: Chlorine should be listed as **Total Residual Chlorine** and the value of 19 should be listed as a 1-day value and the value 11 listed as the 30-day value.

8) N as Nitrate should be listed as **case by case** under the aquatic life acute and chronic columns.

9) Sulfide should be listed as **H2S, undissociated.**

10) Ammonia should be listed as a **TVS** for the aquatic life acute

standard and the domestic water supply value should be specified as **Total.**

11) The total dissolved oxygen values should be listed as **greater than 5,000** and **greater than 3,000.**

12) pH should be listed in standard units.

13) Temperature units should be specified (ie. degrees C).

14) Boron and TDS should not be listed under Type as indicator parameters.

15) Antimony and Beryllium values for domestic water supply are **30-day** values.

16) Page A-3.2: Cyanide should be listed as **free** and as an inorganic rather than a metal type. Also, the four values listed for cyanide under Tables I, II, and III are all 1-day values, which should be specified somewhere in the document.

17) The aquatic life chronic value for Iron of 1,000 should be listed as **Total Recoverable.**

18) The domestic water supply values for Selenium and Thallium should be listed as **30-day.**

19) Page A-3.3: The DDD value for water and fish ingestion should be listed as **0.00083**, rather than 0.0008.

20) Page A-3.3: It should be noted on this page that the total amount of aldrin and dieldrin must be less than 0.003 ug/l.

21) Page A-3.4: The type column for PCBs and atrazine are incorrect.

22) Page A-3.7: There is an extra "di" in N-Nitroso-di-n-propylamine.

23) There should be a note on the table that the standard for pentachlorophenol is pH dependent.

24) Acrylonitrile values should be listed as **0.058** instead of 0.58 and **7500** instead of 7550.

25) Page A-3.10: Footnote 1 states that values in Table I, II, and III for domestic water supply are not included, but values are listed. See, for example, chloride on page A-3.1. Please correct this apparent discrepancy.

26) Footnote 7 should say (a) **and** (b), rather than "in". This footnote should also state that these compounds are to be

maintained at the lowest practical level.

27) Footnote 8 is incorrect. The PQL is **not** the standard. Footnote 8 should state "Where the standard is below the PQL, the PQL is interpreted to be the compliance level." **The PQL does not become the standard, but the standard is always the ARAR and/or benchmark.**

28) Footnote 10 should refer to section 3.1.11 (2) of the WQCC regulations and should state that these parameters are to be maintained at the lowest practical level.

29) Footnote b should reference the last amendment to the South Platte standards as 9/5/91, rather than 2/15/90. Although we agree that the Basin-wide standards are ARAR, the additional site-specific standards are ARARs as well.

30) Table A-4: The last page in the only copy of these tables that the Division received was page A-4.7. Therefore, we assume that the last few pages of this table were inadvertently omitted. Because of this omission, we did not review this table in detail. However, this table needs to be reviewed against the 9/5/91 amended version of the stream standards and resubmitted with changes made.

Attachment A:

3.0 ROCKY FLATS PLANT CHEMICAL SPECIFIC BENCHMARKS

Table 3.1 provides a preliminary identification of potential chemical-specific benchmarks for surface and groundwater at OU X. The benchmarks included in this section were developed for the entire Rocky Flats Plant site and are not specific to OU X. Site specific ARARs will be developed as the initial step of the Corrective Measures Study (CMS) for OU X. As validated data become available from RFI/RI investigations obtained pursuant to this Work Plan, the benchmarks will be reevaluated in accordance with Chapter Three, Part 15 of the IAG. The site-wide benchmarks included in this work plan will be used to establish RFI/RI detection limits. This will be done by setting detection limits as low as, or as close as possible to, the lowest benchmark for any given chemical. Cleanup criteria for OU X will be site specific and shall be based on ARARs and results of an environmental and human-health Risk Assessment.